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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,923	10/31/2002	Torkil Storstein	2001-1199A	5969

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

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DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,923

Applicant(s)

STORSTEIN ET AL.

Examiner

LA VILLA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - I. Regarding Claim 1, it is unclear whether the phrase “particularly brake discs/drums or clutch plates in vehicles” limits the claim to these kinds of friction members. It is unclear whether these are merely options or whether the claim has some other meaning. It is unclear what is meant by the phrase “by any conventional method known per se.” Does this refer to a step of providing, as in making available, or to a step of making? What distinguishes a conventional from a unconventional or other kind of method? It is unclear what is meant by the phrase “predetermined extent.” The use of “predetermined” has been held to be indefinite in a claim where it simply means determined beforehand. Joseph E. Seagram & Sons, Inc. v. Marzall, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia). Is this word superfluous or does it somehow further limit the claimed process step? Is the “predetermined extent” related to “a degree providing a transfer layer with increased thickness and stability”? It is unclear what is the

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relationship between the claimed transfer layer and the claimed method? Does the claimed method provide a transfer layer that requires a step of operating in a friction environment? Does the claimed method merely provide an article that, when used in a friction environment, gives rise to a transfer layer with increased stability and thickness, compared to an article that is not subject to the claimed method of treatment? Is something else meant?

- II. Regarding Claim 3, it is unclear what is the concentration basis for the claimed concentrations. Are these weight percentages?
- III. Regarding Claim 7, it is unclear whether the phrase "particularly brake discs/drums or clutch plates in vehicles" limits the claim to these kinds of friction members. It is unclear whether these are merely options or whether the claim has some other meaning. It is unclear what is the relationship between the claimed transfer layer and the claimed article. Has the claimed article been used in order to form a transfer layer, is the claimed article an article that when used will form a transfer layer, or does applicant deem that a proper transfer layer may only comprise protruding ceramic particles on an aluminum alloy surface?
- IV. Regarding Claim 8, it is unclear whether the claimed PMMC is AlSi reinforced by SiC or AlSi reinforced by SiC and other ceramic particles.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
5. A person shall be entitled to a patent unless –
6. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
7. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Isoyama et al. JP 63-169365. Isoyama teaches a friction material formed of a PMMC body of an aluminum alloy having hard metal particles that is treated with acid or 10% NaOH etchant in order to form an outer layer of protruding hard particles that are partially embedded in the aluminum alloy material. See Abstract; page 2, column 1, top section; page 2, column 2, bottom section; page 3, columns 1 and 2, bottom sections; Tables 1 and 2; and Figures 1-3 in Isoyama.
8. Claims 1, 2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bader et al. USP 4,475,983. Bader teaches a friction material formed of a PMMC body of a copper alloy having ceramic or metal particles that is treated with an acidic electrolytic treatment in order to form an outer layer of protruding particles that are partially embedded in the copper alloy material. See Abstract; Figure 1; col. 2, line 51 through col. 3, line 68; col. 5, lines 1-29; col. 5, line 50 through col. 6, line 60 in Bader.
9. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi USP 4,079,720. Takahashi teaches a friction material comprised of an aluminum alloy matrix containing ceramic silicon particles that project out from the material

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surface. See Abstract; col. 1, lines 25-34; col. 1, line 38 through col. 2, line 19; col. 2, lines 61-65; and col. 3, line 15 through col. 4, line 14 in Takahashi. To the extent that silicon particles also would possess a native oxide outer layer, this silicon oxide layer is also a ceramic material.

10. Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Liechti et al. EP 622 476. Liechti teaches a MMC layer made of Al-Si alloy and having SiC particles formed on an Al-Si alloy body having SiC particles, wherein the uneven surfaced outer layer possesses SiC particles. See Table 1; page 5, lines 4-9; Figure 1; and remaining text in Liechti.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isoyama et al. JP 63-169365 in view of Farnworth USP 5,487,999. Isoyama teaches a friction material formed of a PMMC body of an aluminum alloy having hard metal particles that is treated with acid or 10% NaOH etchant in order to form an outer layer of protruding hard particles that are partially embedded in the aluminum alloy material. See Abstract; page 2, column 1, top section; page 2, column 2, bottom section; page 3, columns 1 and 2, bottom sections; Tables 1 and 2; and Figures 1-3 in Isoyama. Isoyama does not teach using KOH etchant. Farnworth teaches that NaOH and KOH are both effective aluminum etchants. See col. 4, lines 58-67 in Farnworth. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute KOH etchant for NaOH etchant in Isoyama in order to etch aluminum in Isoyama as Farnworth teaches that KOH is also an effective aluminum etchant.

CONCLUSION

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (703) 308-4428. The examiner can normally be reached on Monday through Friday.
15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned

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are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

16. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa
April 11, 2003

A handwritten signature in black ink, appearing to read 'La Villa', written in a cursive style.